

Workshop Report on

**The Launch Meeting of the
Forum for Collaborative Research on**

**“Analysing and Advancing
Partnerships for Sustainability”**

A Joint Initiative by



**TERI—THE ENERGY AND
RESOURCES INSTITUTE**



THE GLOBAL GOVERNANCE PROJECT

**INSTITUTE FOR ENVIRONMENTAL STUDIES OF VRIJE
UNIVERSITEIT AMSTERDAM, FREE UNIVERSITY OF BERLIN,
POTSDAM INSTITUTE FOR CLIMATE IMPACT RESEARCH,
OLDENBURG UNIVERSITY**

I. Overview

The Forum 'Analysing and Advancing Partnerships for Sustainability' (ASAP) is engaging in collaborative research on the 'type 2' partnerships and the plan of implementation that emerged at the World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa. The Forum aims at bridging the gaps between research, policy, and political action on 'type 2' partnerships. Its empirical focus is on the areas of water, energy, health, agriculture and biodiversity (WEHAB).

The Forum is a joint initiative by The Energy and Resources Institute (TERI) and The Global Governance Project, a joint project of four European institutions. The Forum was launched at a workshop held in Berlin on 9 April 2003 at Harnack Haus, Max Planck Society. Participants at the workshop included representatives of research institutes, universities, non-governmental organisations and private corporations from countries of the North and South.

The Forum launch meeting was designed as a small event of a close group of invited possible partners of the Forum. Further larger meetings of the Forum are envisaged.

II. Developing the Forum

The Forum launch meeting was preceded by an evening reception on 8 April hosted by the Ambassador of India to Germany, H.E. T. C. A. *Rangachari*. Key note addresses at the reception included welcome addresses by Ambassador *Rangachari*; Ms *Helga Flores-Trejo*, Director of the North America office of Heinrich Böll Foundation; and Mr *Stephan Contius*, Head of the division on UN institutions in the German Federal Ministry for the Environment, Nature Protection and Nuclear Safety.

On 9 April, the workshop was opened by welcome addresses by Dr *Rajendra K. Pachauri*, Director General of TERI and Chair of the Intergovernmental Panel on Climate Change; Dr *Frank Biermann*, Director of the Global Governance Project and adjunct professor at the Free University of Berlin, who also welcomed participants on behalf of the Indo-German Forum on International Environmental Governance; and Mr *Sascha Müller-Kraenner*, Director of the Europe and North American Programmes of Heinrich Böll Foundation.

Two key note addresses elaborated on the challenges the Forum is about to address, one by Dr *Pachauri*, and one by the *Hon'ble Shri Suresh P. Prabhu*, Member of Parliament (Lok Sabha) and Chairman of the Task Force on Interlinking of Rivers, former Indian Minister for Industry, for Environment and Forests, for Chemicals and Fertilisers, and for Power.

Both keynote addresses emphasised the role of the United Nations in providing the general framework for partnerships and in facilitating their implementation. Both placed 'type 2' partnerships in the general global governance framework and elaborated on the expectations that are linked with this mode of governance for sustainability. The speakers expressed their hope that the partnerships, which have emerged out of an impasse that recognises the limited political effectiveness of international agreements and negotiations, will successfully translate the message of the WSSD into action and will bridge the gap between North and South.

Dr *Biermann* then laid out the research agenda of the Forum, focusing on the challenge of analysing and assessing the partnerships for their effectiveness and legitimacy, and on the need to advance the partnerships through policy-relevant action research that would showcase their effectiveness in achieving shared goals.

The research of the Forum would build on a policy-oriented approach based on a typology of existing partnerships, and would subsequently investigate their effects at the output (i.e. the actual activity of the partnership), outcome (i.e. the observable change in the behaviour of targeted actors) and impact levels (i.e. the changes in economic, social or ecological parameters that result from the change in actors' behaviour). Researchers active in the Forum would then attempt to identify internal (e.g. objectives, structure, instruments etc.) and external factors (e.g. local, national and international policies, structure of the targeted problem etc.) of the partnerships that affect their effectiveness and legitimacy.

Ms *Akanksha Chaurey*, Fellow at TERI, then presented an action research-oriented approach that seeks to scientifically design and implement potential role models for advancing the partnerships in strengthening the WSSD plan of action in the WEHAB areas. As a specific example of collaborative action research, the proposal by TERI on *Strengthening the E-Links: Meeting challenges in the area of Energy, Water and Health* presented an opportunity for various actors (i.e. from the scientific, industry, NGO community) to come together in delivering energy based solutions in the areas of water and health. The term *E-links* introduced in this proposal refers to linkages between Energy and water, Energy and health and so on, and various steps that are essential in delivering energy-based solutions in the areas of water, health etc. The phrase *Strengthening the E-links* means identifying inherent weaknesses—due to the technology, management, institutional or other aspects—in the above E-link or delivery chain and addressing them by designing and implementing solutions through collaborative action research.

Both presentations comprised of two important dimensions of *analysing* and *advancing* partnerships in order to make them work effectively for implementing the WSSD.

Both dimensions rely on and complement each other. On the one hand, the policy-oriented approach assesses the effectiveness of partnerships at the macro-level without researchers being directly involved in the partnerships processes. The action-oriented research, on the other hand, involves direct participation of scientists in the initiation and implementation process and hence a more active and participatory role. Thus, the integration of these two diverse approaches in the Forum's research agenda provides an opportunity to understand in more detail the partnerships' translation processes from output into outcome, and ultimately their impact through effective implementation.

By using the results of both approaches, the Forum provides a dynamic and two-pillar platform for the partnerships that intellectually facilitates their common goals through both academic analysis of a broad range of existing partnerships as well as scientific preparation and support of the implementation of selected partnerships. This integrated research approach would also enable the Forum to derive general guidelines for the creation, implementation and advancement of partnerships thereby enhancing their potential to effectively contribute to sustainable development. To translate the above approach into action, the Forum would offer an opportunity to scientific and business community in working closely with the local communities in addressing their developmental requirements in a sustainable manner.

III. Organising research and refining the research agenda

The subsequent discussion was organised in two roundtables, facilitated by Dr *Bernd Siebenhüner*, Deputy Director of the Global Governance Project and Junior Professor for Ecological Economics at the Carl von Ossietzky University of Oldenburg, and Mr *Ashok Jaitly*, Distinguished Fellow at TERI. Both roundtables centred on the question of how to organise the research and further advance the research agenda.

Views from industry, civil society and the scientific community were put forward by *Michael Hölz*, Global Head Sustainable Development at Deutsche Bank AG, *Jürgen Maier*, German NGO Forum Environment and Development, and Professor *Joachim Treusch*, Chairman, Forschungszentrum Jülich, Germany.

It was stressed that the integration of stakeholders during the Forum's research agenda-setting process and later its research activities is indispensable—not only for reasons of research quality, timeliness and appropriateness but also in order to allow for the acceptability and support of the Forum in general and its research design in particular. Closely related to these remarks, several contributions recommended that the Forum itself has to ensure that it is perceived as legitimate for analysing, developing and evaluating partnerships. One crucial element in maintaining and strengthening the Forum's legitimacy as well as ensuring high scientific standards is to safeguard its academic and institutional

independence—e.g. by carefully selecting members of the Forum and partnerships which are to be analysed. The discussions also referred to the challenge inherent in the assessment of partnerships, hence, the need for a point of reference. Two options were identified to cope with this methodological challenge that occurs throughout every attempt to evaluate public policy in general and environmental policy in particular. As the first option, the evaluation of several partnerships enables the Forum to compare their effectiveness with each other and develop a ranking of effectiveness, which can also build the basis for an award scheme that was proposed and is being designed. Within the second option, the Forum evaluates the partnerships against an available or to be developed baseline scenario.

Further, it was felt that for the sake of the Forum's objective to gain political and practical relevance as well as for their advancement, the analysis has to broaden its approach and seek to identify modes and mechanisms of governance with the potential to improve the poor performance of selected partnerships.

Deliberations also focussed on the motives for actors in general and NGOs in particular to participate in partnerships, which is yet poorly understood. This question is rendered even more important when within the action-oriented research approach, potential partners have to be motivated to participate. The process of how the partnerships work effectively in achieving their goals should be the agenda rather than facilitating the formulation of partnerships themselves.

The discussion also emphasised that many partnerships have played important roles already before the WSSD, which then rather provided merely a platform to formalise and endorse these partnerships. Hence the Forum needs to define and identify criteria that distinguish new 'type 2' partnerships from existing forms of co-operation.

IV. Energy: priority issue area

Several contributions highlighted the urgency to tackle energy-related problems in developing countries, due to the nexus and interdependencies between energy, water and health. The overall improvement of health conditions and access to clean and affordable water remain the most urgent challenge for strategies pursuing the aims of poverty reduction and sustainable development in developing countries. Even more important, the amelioration of conditions in these interrelated and interdependent issue areas relies heavily on an increase in the production of and a substantial improvement of the access to energy—in particular renewable or clean energy that do no harm to the environment. Therefore and following the participants' recommendations to select cases that address the most urgent problems, the Forum agreed to initiate its research on energy-related projects.

V. A Tentative Plan of Action

As an immediate outcome to the Launch meeting, the Forum would undertake following activities in a timely manner:

Activity	Time schedule
<i>Formulation of Steering Committee</i>	15 May 2003
<i>Formulation of the Advisory Council</i>	30 May 2003
<i>Preparation of the Forum's research agenda and its charter by the Steering Committee</i>	15 June 2003
<i>Review of the research agenda and charter by the Advisory Council</i>	15 July 2003
<i>Meeting of the Advisory Council to assist in finalising the research agenda, charter and funding mechanism</i>	30 September 2003
<i>Launch of the Forum website</i>	30 September 2003
<i>Identifying one or two projects for collaborative research and initiating the Forum's research</i>	30 September 2003
<i>Organise a multi-stakeholder workshop for introducing the Forum to a larger audience during the Delhi Sustainable Development Summit 2004</i>	February 2004

This Report has been compiled by Per-Olof Busch, research group co-ordinator within the Global Governance Project, and Akanksha Chaurey, fellow at TERI.

ANALYSING AND ADVANCING PARTNERSHIPS FOR SUSTAINABILITY

*A Workshop Organised by the
Forum for Collaborative Research*

*A Joint Initiative by TERI—The Energy and Resources Institute
and the Global Governance Project
in co-operation with the Heinrich Böll Foundation*

Berlin, 8-9 April 2003

Programme

8 April

18.00 hrs

Reception in the Embassy of India in Berlin

Welcome addresses:

- Ambassador T. C. A. Rangachari, Ambassador of India to Germany
- PD Dr Frank Biermann, Director, Global Governance Project, and Indo-German Forum on International Environmental Governance
- Helga Flores-Trejo, Director, Heinrich Böll Foundation, Washington DC

Key note addresses:

- Dr R. K. Pachauri, Director-General, TERI, and Chair, Intergovernmental Panel on Climate Change, New Delhi
- Suresh P. Prabhu, Member of Parliament (Lok Sabha) and Chairman of the Task Force on Interlinking of Rivers, former Indian Minister for Industry, for Environment and Forests, for Chemicals and Fertilizers, and for Power
- Stephan Contius, Head of Division G II 4 (UN Institutions/Co-operation with Developing Countries and Newly Industrialised Countries), Federal Ministry for the Environment, Nature Protection and Nuclear Safety, Berlin

9 April

9.00 hrs

Welcome

- PD Dr Frank Biermann, Director, Global Governance Project, and Indo-German Forum on International Environmental Governance
- Dr Rajendra K. Pachauri, Director-General, TERI, and Chair, Intergovernmental Panel on Climate Change
- Sascha Müller-Kraenner, Director, Europe and North America Programmes, Heinrich Böll Foundation

9.15 hrs

Introductory Addresses "Partnerships for Sustainability: Opportunities in Water, Energy and Health"

- Dr Rajendra K Pachauri, Director-General, TERI, and Chair, IPCC
- Suresh P. Prabhu, Member of Parliament (Lok Sabha) and Chairman of the Task Force on Interlinking of Rivers; former Indian Minister for Industry, for Environment and Forests, for Chemicals and Fertilizers, and for Power

10.00 – 10.30 hrs

Presentation of the Research Forum 'Analysis of Partnerships for Sustainability': A Joint Initiative by TERI—The Energy and Resources Institute and the Global Governance Project (*Frank Biermann*)

10.30 – 11.00 hrs

Presentation of a proposal on "Strengthening the E-links: Meeting Challenges in Energy, Water and Health Through Partnerships" by TERI (*Akanksha Chaurey*)

11.00 – 11.30 hrs

Coffee/Tea Break

11.30 – 12.30 hrs

Roundtable discussion on strengthening the Johannesburg commitments through partnerships

12.30 – 14.00 hrs

Lunch at Harnack House

14.00 – 15.30 hrs

Participants' perspectives on partnerships to strengthen the Johannesburg commitments, especially in the field of water, energy, health, agriculture and biodiversity (WEHAB)

- *A view from industry:* Hanns Michael Hölz, Global Head, Sustainable Development, Deutsche Bank AG
- *A view from civil society:* Jurgen Maier, Co-ordinator, German NGO Forum Environment and Development
- *A view from the research community:* Prof Joachim Treusch, Chairman, Forschungszentrum Jülich, Germany
- *Concluding Remarks:* Ashok Jaitly, Distinguished Fellow at TERI

15.30 – 16.00 hrs

Coffee/Tea break

16.00 – 17.30 hrs

Roundtable discussion on the future evolution and planning of the Forum

Venue

8 April: Embassy of India in Berlin, Tiergartenstraße 17, 10785 Berlin

9 April: Harnack Haus, Max Planck Society, Ihnestraße 16-20, 14195 Berlin

Contact

For more information, please contact the local workshop co-ordinator,

Per-Olof Busch, Research Group Co-ordinator, Global Governance Project, at busch@glogov.org or +49-(0)30-838-54493.

A workshop website will be established at www.glogov.org.

The workshop is endorsed by the Indo-German Forum on International Environmental Governance (www.indo-german-forum.net).

ANALYSING AND ADVANCING PARTNERSHIPS FOR SUSTAINABILITY

*A Workshop Organised by the
Forum for Collaborative Research
A Joint Initiative by TERI—The Energy and Resources Institute
and the Global Governance Project
in co-operation with the Heinrich Böll Foundation*

Berlin, 8-9 April 2003

List of Participants

Steffen Behrle, Global Governance Project, Potsdam/ Berlin

PD Dr Frank Biermann, Director, Global Governance Project and Indo-German Forum on International Environmental Governance, Potsdam/Berlin, Germany.

Per-Olof Busch, co-ordinator, MOSAIC research group, Global Governance Project, Berlin, Germany.

Akanksha Chaurey, Fellow and Area Convenor, Renewable Energy Technology Applications, TERI, New Delhi, India.

Stephan Contius, Head of Division G II 4, German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Berlin, Germany.

Klaus Dingwerth, Global Governance Project, Potsdam/Berlin, Germany.

Helga Flores-Trejo, Director, Heinrich Böll Foundation, Washington DC, USA.

Regine Günther, World Wide Fund for Nature Germany, Berlin, Germany.

Dr Aarti Gupta, Project Manager, Forest Integrity Network, Transparency International, Berlin, Germany.

Dr B. R. Gurjar, Atmospheric Chemistry Division, Max Planck Institute for Chemistry, Mainz, Germany.

Jürgen Friedrich Hake, Head, Systems Analysis and Technology Evaluation, KFA Research Centre, Jülich, Germany.

Professor Ulf Hansen, Professor of Energy Systems, Institute for Thermal Machines and Systems, Rostock University Germany.

Dr Mitu Hemmati, Stakeholder Forum for Our Common Future, London.

Hanns Michael Hölz, Global Head Sustainable Development, Deutsche Bank AG, Frankfurt am Main, Germany

Dr Klaus Jacob, Environmental Policy Research Unit, Free University Berlin, Berlin, Germany

Ashok Jaitly, Distinguished Fellow, TERI—The Energy and Resources Institute, New Delhi, India.

Markus Knigge, Research Fellow, Ecologic, Institute for International and European Environmental Policy, Berlin.

Maritta R. Koch-Weser, President, Earth3000, Bieberstein, Germany.

Jürgen Maier, German NGO Forum Environment & Development, Bonn, Germany.

Sascha Müller-Kraenner, Director, Europe and North America Programmes, Heinrich Böll Foundation, Berlin, Germany.

Dr Rajendra K. Pachauri, Director-General, TERI—The Energy and Resources Institute, New Delhi, and Chair, Intergovernmental Panel on Climate Change, Geneva, Switzerland.

Philipp Pattberg, Global Governance Project, Potsdam/Berlin, Germany.

Hon'ble Shri Suresh P. Prabhu, Member of Parliament (Lok Sabha) and Chairman of the Task Force on Interlinking of Rivers, former Indian Minister for Industry, for Environment and Forests, for Chemicals and Fertilizers, and for Power.

Ambassador T. C. A. Rangachari, Ambassador of India to Germany, Berlin, Germany

Dr Bernd Siebenhüner, Junior Professor of Ecological Economics, Carl von Ossietzky University of Oldenburg, Oldenburg, Germany, and Deputy Director, Global Governance Project, Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany.

Hans-Dieter Sohn, co-ordinator, Indo-German Forum on International Environmental Governance, Global Governance Project, Potsdam/Berlin, Germany.

Julia Steets, Global Public Policy Institute, Berlin, Germany.

Professor Joachim Treusch, Chairman, KFA Research Centre, Jülich, Germany.

Alexandra Waldmann, Berlin Energy Agency, Berlin, Germany

Professor Dr Ernst Ulrich von Weizsäcker, Member of the German Bundestag, Berlin, Germany.



Strengthening the *E-links*: Meeting challenges in energy, water and health through partnerships

**Base paper and proposal idea for the
Forum for Collaborative Research**

TERI, New Delhi, India

March 2003

Strengthening the *E-links*: Meeting challenges in energy, water and health through partnerships

1.0 Context

Two significant features marked the outcome of the Johannesburg Summit: an action plan in the areas related to WEHAB¹ and the recognition of the role of multistakeholder partnerships and non-governmental actors through Type II initiatives.² The importance of these strategic public-private partnerships as mechanisms for coordination; furthering and applying knowledge; and mobilizing financial capital for sustainable development have emerged strongly in international fora, particularly in the colloquium “Johannesburg and beyond: Toward concrete action.”³ What further emerged from the colloquium “Looking beyond Johannesburg: Scientific perspective on strengthening partnerships in water and energy” was the importance of *knowledge flows* based on progress in science and technology. Bridging the gap between technology as it exists today and its customization and delivery *in step* with the needs of the people is a major challenge ahead. Another challenge lies in “building bridges” between research and policy and between research and action. Embedded in these challenges, however, is the need to develop synergies between the efforts of various stakeholders towards strengthening the Type II initiatives in the Johannesburg Plan of Implementation.

Focusing on the crucial linkages between Water, Health and Energy and their role in poverty reduction, this paper proposes an approach for action-oriented collaborative research between key stakeholders.

2.0 Energy as a prime mover for sustainable development – Challenges in water and health

2.1 *Appreciating the magnitude of the challenge*

Energy is at the pivot of economic development of nations. It is also intrinsic to meeting the needs of more than 1.2 billion people worldwide who are afflicted with extreme poverty—now acknowledged internationally as survival on less than \$1 a day. The Millenium Development Goals, reaffirmed at the Johannesburg Summit, call on nations to halve income poverty by 2015. Deeply rooted in this level of poverty are numerous other dimensions of deprivation—1 billion people without access to safe drinking water, for example. The UNDP Human Development Report estimates further that 2.2 million people die annually from indoor air pollution and 11 million children under the age of five die from preventable causes (UNDP 2001).

The lack of clean, affordable, and appropriate energy services is a crucial factor in addressing these dimensions. Electricity, for instance, is an indispensable input for productive and economic activities, as well as overall health and well-being.

¹ The World Summit on Sustainable Development agenda which covered five key thematic areas of sustainable development: Water, Energy, Health, Agriculture and Biodiversity

² Non-negotiated partnerships that supplement government commitments and that aim at implementing Agenda 21

³ Organized by TERI-North America in New York in March 2002. The colloquium explored a shift in the development paradigm to energy, environment, and health priorities, and discussed relevant opportunities and challenges for governments, corporates, and civil society.

For vulnerable rural populations, the positive impacts of electricity inputs for basic activities such as pumping water for drinking and irrigation; lighting for extending working and learning hours; and powering small-scale rural industry are considerably greater due to a bundling of socio-economic benefits. Literature also points to the fact that the positive contribution of electricity to the Human Development Index is strongest for the first kilowatt-hour (EDF 2002), reflecting that the poorest are most likely to benefit from even minimal electricity inputs to meet basic needs. Currently, 1.6 billion worldwide lack access to electricity, with more than 80% of this number concentrated in rural areas of Sub-Saharan Africa and South Asia (IEA 2002).

Critical poverty indicators such as infant mortality, life expectancy, and illiteracy are hence not likely to improve unless adequate modern energy services are available, among other important factors. Appreciating the magnitude of the problem is only a first step. Understanding the specific linkages between energy inputs and their impact on poverty reduction—especially in the areas of water and health services and agriculture—is the focus of the next section.

2.2 Translating W-E-H linkages into strategies for poverty reduction

The role of energy in addressing the challenges in water and health can best be illustrated by a star-n-delta connection diagram as depicted in Figure 1 below. As can be seen, energy is individually linked to water, health, and agriculture and is at the epicenter of the triangle connecting the three. Energy is required to pump, purify, and supply water for both drinking and irrigation purposes.⁴ It is critical for providing improved health services such as vaccine refrigeration in the cold chain, and power for essential instruments in primary health clinics. Modern energy devices such as solar lanterns replace the use of locally made kerosene devices, thereby mitigating the health and fire hazards associated with the use of kerosene. Cleaner forms of energy for cooking can also avert health risks associated with indoor air pollution. Further, efficient use of energy can enhance the productivity in the agricultural sector by extending the working day through lighting and by mechanizing the processing of crops and raw materials.

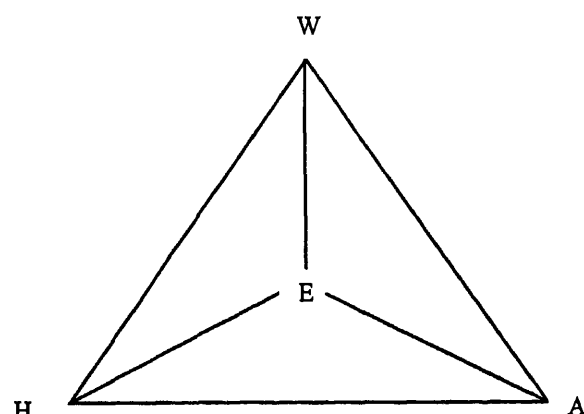


Figure 1: A star-n-delta connection showing energy as an essential input to W, H, and A

⁴ The link may be two-way; for example, water is one of the most important resources for the production of both mechanical (water mills) and electrical energy (turbines).

There are numerous linkages, both direct and crosscutting, which highlight the role of energy in applications related to water and health. However, a closer look at these energy linkages or *E-links*—a term that this paper would like to use—reveals that the supply options for energy, as well its use, are not always sustainable. Issues related to technology development, adaptation and customization; institutional and economic considerations; and policy and regulatory regimes have a strong bearing on the sustainable extraction and consumption of energy. For example, electrical pumping is one of the most convenient ways of extracting ground water. However, in most developing countries, supply of electricity is unreliable and hence the diesel generator is the most common alternative used. Although there are cleaner technologies available (solar and wind energy for instance) for pumping water, their diffusion and penetration continues to face many barriers despite local and global efforts. Several such examples illustrate that although energy is recognized as a prime mover for sustainable development, it is unable to drive this process due to inherent limitations in the existing systems of extraction and usage.

In the above context, renewable energy technologies (RETs) become important as they supplement fossil fuel-based energy systems. Not only do they promote energy security in certain circumstances, but RETs are also often the preferred option for certain applications such as remote village electrification where grid extension is unviable. RETs play a dual role both in meeting emissions targets nationally and globally, and in addressing development challenges. The Johannesburg Summit has already given new impetus to renewables through an international agreement cited in paragraph 19(e) of the Implementation Plan: “With a sense of urgency, substantially increase the global share of renewable energy sources with the objective of increasing its contribution to total energy supply...⁵”

However, if the benefits of RETs are to be maximized, their diffusion and penetration⁶ for *specific* and *vital* end-use applications (especially in water and health) have to be enhanced substantially. The diffusion of RETs continues to face many barriers that cannot be addressed either by a single stakeholder or by following a standardized approach. The solutions have to be localized, integrated with the overall development agenda, and should be developed through multi-stakeholder involvement. Moreover, the process of problem identification, solution design, and implementation of actions has to be based on sound scientific principles.⁷

The following sections discuss how the above approach can be applied for bolstering the *E-links* between energy and water (and, in turn, agriculture), and between energy and health for the poor.

⁵ Taken from the speech by the Hon'ble Margarete Wolf, Parliamentary State Secretary, German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, at a side event hosted by the European Union during the 22nd Governing Council of the UNEP, Feb 6, 2003, Nairobi. Further, by announcing to host the International Conference on Renewable Energies in Bonn, the German government intends to take the renewables agenda forward worldwide, in addition to supporting the “Like Minded Countries Declaration”.

⁶ This paper uses the term technology diffusion and transfer not merely in terms of acquisition of equipment, but in a more holistic sense encompassing capabilities to access, apply, and adapt knowledge in order to contribute to and be benefited by the technology transfer or diffusion.

⁷ The term *science* in this paper is in a holistic sense - a process of relentlessly seeking knowledge through experimentation, observation, data collection, modeling, and generalizing, as well as detailed quantitative and qualitative analysis.

3.0 Strengthening the *E-links* to deliver sustainable energy solutions in water and health for the poor

3.1 Identifying inherent E-link weaknesses

Using electricity as an example, this section attempts to identify problems related to delivery of electricity services to the poor. The problems related to grid-based electricity supply in developing countries are manifold, as are the barriers related to deployment of distributed generation and supply technologies. While rural electrification is not always the priority for the utility, particularly under the reforms scenario, it is not even viable in most rural areas that are remote, inaccessible and with low demand. Distributed generation based on RETs is a viable option, but there are no efficient delivery mechanisms that ensure synergy between the business interests of the service provider and those of the community. The concept of a 'rural ESCO' is unheard of primarily because there are unresolved issues related to the role of regulator in the off-grid electrification sector, competitive bidding, use of subsidies and concessions, and tariff setting, among others. There are also unresolved issues related to technology development itself. For example, the biomass gasifier is a viable alternative to rural electrification provided that biomass supply systems are well developed and managed. However, the 100% diesel replacing gas engine for smaller capacity gasifiers (10-50 kWe) is still under research and development. Further, many of the institutional arrangements for operation and maintenance (O&M), selling of electricity, and revenue collection for mini-grids based on biomass, PV, small hydro, and wind-PV hybrid are still at an experimental stage.

The above issues are better understood when discussed in the context of specific *E-links*:

⇒ *Energy for pumping, purifying and supply of water for drinking (i.e. health) and irrigation (i.e. agriculture)*

Both electrical and mechanical energy can be used for pumping water, although the most convenient form of utilizing this energy appears to be through the use of diesel pumpsets. This option, however, is not the most sustainable. The inherent limitations of the centralized model of generation and distribution of electricity in developing countries has resulted in many short-term and unsustainable solutions such as this, along with over-drawing of electricity, and in some cases, excessive use of human and animal power.

While power sector reforms aiming to improve the overall viability of the sector are one way of addressing the problem, decentralized solutions based on RETs are equally important for developing countries, particularly for remote communities. Solar photovoltaics- (SPV) based pumping is one such decentralized option that has been used extensively in India for agricultural purposes. Although this application is inherently limited by cost-economics, which make the systems unviable for areas with a deeper water table, the strength of the Indian programme lies in its dependence on homegrown technology. These technologies incorporate various system designs based on interfacing of PV with DC/AC driven motor and centrifugal surface/submersible pump, combined with efficient techniques such as drip irrigation. Another driving factor for this programme has been the use of fiscal and financial incentives given in

the form of subsidies and soft loans to make the system affordable to users across the country. Further, innovative financing schemes implemented by some states in the form of “easy payment schemes” through financing intermediaries has resulted in wider diffusion of the technology in these states. This innovation in customization of SPV technology, however, has not been observed in drinking water applications where the techniques for water purification have not yet been suitably developed. In order to strengthen the *E-link* for safe drinking water, investment in R&D is needed that focuses on *integrating* pumping and purification techniques suitable for different types of impurities. Another innovation required for efficient delivery and use of safe drinking water is the involvement of the community in managing the entire scheme of distribution of water. There are very few examples of community-managed village level drinking water schemes. Further analysis of the *E-link* will reveal the need for a specific intervention or area of research.

To elaborate this approach further, consider another *E-link*:

⇒ *Energy for primary health clinics, including for vaccine refrigeration in the cold chain*

Energy is critical for providing improved health services such as vaccine refrigeration in the cold chain, power for essential instruments in primary health clinics, etc. Most rural areas in developing countries lack access to primary health services not only because competent health staff is unwilling to serve in these areas, but also because there are very few alternate technology solutions that ensure reliable medical services. This includes important programmes such as polio eradication and reproductive and child health.

The example of the World Health Organization (WHO) cold-chain for vaccine refrigeration is a case in point. While there are modern technologies available to transport vaccines and other life saving drugs up to a point where refrigerated transportation can reach, beyond such a point, they have to be transported in an ice-box carried either on camel back or on boats, or in some extreme cases, helicopters. Evidently, these are highly cost-ineffective methods. Once in the village, they have to be administered instantly or are required to be kept under refrigeration. Although WHO in this cold-chain has prescribed the use of solar PV for vaccine refrigeration, most developing countries import this technology/product from industrialized countries often as part of tied-aid. As would be expected in such cases of technology transfer, only the equipment reaches the user, without any effort to transfer the know-how and/or develop skills for its use, installation, and O&M. Similarly, sterilization needs can be easily taken care of by the use of solar stills for hot water and steam. However, the R&D that may have resulted in a commercially viable and entrepreneur friendly technology is highly limited. Further, in order to ensure the faith of the community in available health services, it is important that the delivery system, which includes infrastructure and medical staff at the center, is efficient.

Renewables-based energy systems can play a crucial role in ensuring this efficiency not only by providing basic services such as improved lighting in mini operation theatres and dressing rooms, but also by providing improved amenities at medical staff quarters.

⇒ *Provision of clean energy for poor households*

The health hazards associated with the combustion of bio-fuels in traditional cookstoves are now well known. Estimates indicate that indoor smoke from solid fuels causes about 35.7% of lower respiratory infections, 22% of chronic obstructive pulmonary disease and 1.5% of trachea, bronchus and lung cancer (WHO 2002). Access to alternative cleaner cooking fuels (such as solar cookers, biogas or LPG), could considerably reduce these health hazards, to which women and children are the most vulnerable due to their predominantly household roles. Access to modern energy forms would also spare women and children from the drudgery, and discomfort associated with collecting firewood, and make more time available for productive activities that may enhance income and/or welfare. The energy transition however, would be possible only if the alternative fuels (including associated equipment or connection costs) are affordable and match the households' cooking requirements.

Key issues that emerge from the above discussions are:

- There are clear and not-so-clear weaknesses in each *E-link* that need to be identified through careful analysis of the various stages of delivery. These weaknesses may be related to mismatch of the technology with the needs, unfavorable economics and affordability for its wider acceptance, inefficient delivery mechanisms, inability of the community to use the technology, and institutional and policy aspects hindering its diffusion.
- A series of enabling and supportive factors, such as a well-developed skill base, well-targeted R&D programs for technology customization, conducive policies and governance structures for entrepreneurial private sector involvement, and suitable financial mechanisms are required to address the above weaknesses.
- A dynamic and integrated approach is required that combines all or some of the above factors in order to facilitate innovations in diffusion or delivery of energy services.

The next section proposes an approach for designing innovations in energy service delivery.

3.2 Towards innovations in energy service delivery—designing an integrated solutions approach

Innovations in energy service delivery need attention to the following aspects: affordability, accessibility, environmental soundness, and acceptability, with particular attention to commercial management; market development; economic competitiveness; and technical adaptation to local conditions, and synergies across sectors.⁸

Addressing these aspects in the process of designing solutions for effective energy service delivery, it is imperative that the following elements are incorporated into the process itself:

⁸ For example, innovations are also required outside the energy sector to tap the potential of energy in breaking the poverty trap. While access to energy facilitates the provision of piped water, this would result in a significant reduction in the incidence of water-borne diseases, only if investments are also made in improving sanitation facilities and in creating awareness about hygiene.

- *Technology development and customization attuned to the specific needs of communities*—In order to ensure that technological innovation systems match the real needs of the people while conserving natural resources, technology development strategies should be based on a bottom-up process of assessing needs. Such processes should be dynamic and ongoing, as needs change over time, and should involve a wide range of stakeholders, including the poor themselves.⁹ These innovations can be best achieved through investment in well-targeted and business-oriented R&D. This is partly because innovations in technology development are often hindered due to the fact that R&D activities are not always based on a well-thought out road map for diffusion of its outcome. In fact, technology R&D sometimes neglects the extension or diffusion process, thereby placing the risk of technology adoption with the lowest link in the chain—the potential adopter of the technology who is not willing to take the risk of technology innovation. A desirable approach would therefore be to develop national R&D strategies *in conjunction* with a variety of public and private sector stakeholders, including community-based organizations and representatives of the potential adopters of resultant technologies.

- *Capacity enhancement: Training and education programs geared to technology development, diffusion and adoption*—An essential requirement for designing innovations in energy service delivery is human and institutional capacity. Capacity enhancement is required at every stage of delivery in the *E-link* from technology development to uptake and usage by the poor. Such education programs have been most successful when they use a participatory approach that is appropriate to the social and cultural milieu of the community. Activities are required that would not only prepare the potential adopters for the benefits and limitations of technological innovations, but also raise their awareness on related policy and institutional aspects. Capacity enhancement could also be done through support for enterprise development and recognition and promotion of informal markets and small-scale innovations that take place indigenously.

- *Assessing policy impacts and recommending changes*—There may often be inconsistencies in the policies concerning water and health provision, and those concerning energy provision. Moreover, there may be a lack of communication between and transparency within the public agencies that administer energy, water and health to the poor.¹⁰ There is a need to revisit some of these disparate policies and suggest ways in which governance structures could better address the needs of the poor at the ground level. Further, an important area for research is the estimation of the cost of inaction through the explicit identification, estimation, and valuation of the environmental and social impacts of various activities (e.g. the cost of illness associated with indoor air pollution resulting from the combustion of biofuels in traditional cookstoves). These costs are, in fact, seldom accounted for. This is where partnerships would be effective in bridging the gap

⁹ From the High-level workshop on strategies for addressing the linkages between technology and sustainable development at the World Summit for Sustainable Development (WSSD) in Johannesburg 2002, 17–18 January 2002, Chatham House, London

¹⁰ In rural Rajasthan, India, for instance, the Public Health and Engineering Department (PHED) is in charge of installing electric drinking water pumps in villages. With the dire power situation, however, villagers are seldom able to use the pumps for obtaining clean drinking water. Yet PHED is unwilling to replace the electric pumps with SPV pumps due to its rigid institutional structure, and inflexibility to cooperate with the local renewable energy agency.

between research and policy, with a view to transferring the results of policy analysis (often undertaken by research organizations) into the policy making process.

- *Developing institutions for seeding and managing innovations* inter alia *enterprise development, financing, and technology incubation*—Institutions such as self-help groups, water markets, RESCOs, Market Facilitation & Enterprise Development Organization (MFEDO), community health organizations, among others, could support niche areas in energy, water and health. For example, an MFEDO may facilitate networking, partner-matching, market research, consulting services, financing, policy advocacy and advice. The strength of the above institutions lie in effective public-private-community partnerships. The business community would also find opportunities in investments in the above institutions. As an example, a non-banking financial organization could extend rural credit for purchase of solar home systems, and involve an NGO for after-sale service and revenue collection.

3.3 From approach to implementation: The role of action research

Translating the above approach of integrating essential elements of technology customization; policy and institutional arrangements; capacity enhancement and multi-stakeholders participation; and access to markets and finance into the process of implementation calls for action research that is targeted at strengthening weak stages in *E-links* and identifying new and cross-sectoral opportunities. Take the example of the *E-link* for water supply. Here, technology customization efforts would essentially need to look at developing a package that integrates a) water pumping and storage techniques for different water tables and ground water conditions, b) purification methods based on the assessment of type of impurity, c) distribution systems based on, to the extent feasible, locally available materials and techniques while ensuring end-use efficiency.

Consider another *E-link* that deals with the use of renewable mini-grids for electrification of remote, sparsely populated and inaccessible communities. While it is important to design the mini-grid model based on the most techno-economically viable renewable resource, it is equally important to design custom-made capacity enhancement programs for consumer groups to utilize the electricity services; for the community to manage the mini-grid scheme; for NGOs and local the government to plan and implement initiatives for socio-economic development; and for local entrepreneurs to develop and manage businesses on both the supply and demand side.

Similarly, in the case of energy for household applications that help in mitigating health risks related with indoor air pollution, it is critical that delivery systems for cleaner devices such as improved cookstoves, build in an element of user training in constructing or installing the devices, and ensure that parts and tools required are easily available.

The table below gives a few illustrative examples of action research items to bolster the essential elements for *E-link* service delivery:

Essential elements for designing an integrated solutions approach	Illustrative action research items	Direct impact on strengthening <i>E-link</i> service delivery
Technology development and customization	<ul style="list-style-type: none"> Investigating the use of light-emitting diodes (LEDs) in solar lighting systems Gasifier development Combining water pumping and purification technologies 	<ul style="list-style-type: none"> Improving the affordability of otherwise expensive or still unviable technologies
Capacity enhancement	<ul style="list-style-type: none"> Market research on the potential for diffusion of <i>E-link</i> technologies Strengthening university curricula in <i>E-link</i> areas Designing participatory approaches for village-level awareness and training programs 	<ul style="list-style-type: none"> Increased appreciation of the business sense in poverty reduction strategies, leading to increased diffusion Increased user awareness, leading to sustainability of technologies
Policy analysis	<ul style="list-style-type: none"> Calculating the cost of inaction of failing to provide energy services for water and health Determining how policies in E, W, and H can be integrated, and more pertinent to the needs at the ground level 	<ul style="list-style-type: none"> Increased efficacy of policy making and implementation Removal of policy barriers in establishing <i>E-links</i>
Institutional arrangements	<ul style="list-style-type: none"> Establishing business support centers for nurturing rural enterprises Analyzing the governance structures and actors in NGOs, government agencies, and research organizations that are most amenable to a partnerships approach 	<ul style="list-style-type: none"> Risk mitigation and improving commercial viability of entrepreneurial and innovative business models

Each of these action research items would be possible through strong partnerships between key stakeholders. Partnerships are hence needed not only for ultimate delivery of *E-link* energy services, but also for the lead-up processes. The final section below looks at how some of these partnerships for action can emerge.

4.0 Partnerships for action: Forum for Collaborative Research

The approach discussed above for strengthening the *E-links* requires collaborative efforts between institutions and organizations from different parts of the world, as the strength of this approach lies in multi-dimensional analysis and multi-faceted solutions. Moreover, the merit of such an approach would lie in the buoyant nature of networking, particularly in that it provides a platform for experience sharing between key stakeholders. The strategic partnerships or alliances between the North and the South, and within the South itself would then act as appropriate vehicles to implement strategies for poverty reduction. The activities of the network would also help in seeding larger programs across the world, which would attract not only multilateral and bilateral funding, but also offer new opportunities to the corporate sector.

The Forum therefore seeks to tap the potential of partnerships by mobilizing the strengths of different actors. Several pairs of partners can be identified to demonstrate the complementarities that need to be harnessed. Some examples are

partnerships between engineers and social scientists¹¹, policy-makers and researchers, the state and users, and intra-bureaucracy partnerships.

As one of the research agendas, the Forum for Collaborative Research would target innovations in energy service delivery to the poor in the health and water sectors. It is proposed to do this through the setting up of partnerships that would identify research priorities and undertake action research in these priority areas. The activities proposed in next one year are as follows:

- Identifying strategic *E-links* and analyzing them for their weaknesses at various stages (research and analysis should include an assessment of current and future technologies, specific barriers to their diffusion, scope or innovations etc.)
- Categorizing these weaknesses into those related to the essential elements of the integrated solutions approach (*i.e.* institutional, technological)
- Investigating and documenting specific innovations, particularly at the local level, that have helped in improving energy service delivery
- Assessing how these innovations can be globalized to strengthen the *E-links*
- Calling for partnerships to undertake the above research
- Developing specific action research proposals and identify sources of funding

References

1. EDF. 2002. Electricity for all: Targets, timetables, instruments. Prepared for the World Summit on Sustainable Development. Paris: Electricité de France.
2. IEA. 2002. World Energy Outlook. Paris: International Energy Agency.
3. UNDP. 2001. Human Development Report. United Nations Development Program. Available at www.undp.org/hdr2001
4. WHO 2002. World Health Report 2002: Reducing risks, promoting healthy life. Geneva: World Health Organization

¹¹ To illustrate, a partnership between engineers and social scientists is crucial for designing water delivery schemes as discussed in the paper, where the users' perceptions, habits and preferences need to be explicitly taken into account in designing and implementing new technologies.

Analysing Partnerships for Sustainability (ASAP)

**Outline of a Research Forum on Strengthening the
Implementation of the Johannesburg Commitments on
Sustainable Development**

A Joint Initiative by



THE ENERGY AND RESOURCES INSTITUTE



THE GLOBAL GOVERNANCE PROJECT

**INSTITUTE FOR ENVIRONMENTAL STUDIES OF VRIJE
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I. Objective

The international Research Forum 'Analysing Partnerships for Sustainability' (ASAP Forum) described in this proposal is devised as a consortium of research institutes, universities, non-governmental organisations and private corporations from both industrialised and developing countries. Members of the Forum will engage in a joint programme of policy analysis and applied research on the partnerships and the plan of implementation that have emerged at the 2002 World Summit on Sustainable Development in Johannesburg, with special focus on water, energy, health, agriculture and biodiversity (WEHAB areas). The Forum thus strives to assist—from a research perspective—in strengthening the implementation of the partnership initiatives that have been agreed in Johannesburg and beyond to achieve the targets enshrined in the Agenda 21 and the Millennium Development Goals.

In a first step, research on 'type 2' partnerships should focus on one WEHAB theme, for example energy, which would assist in developing and testing a first set of questions and hypotheses. A specific proposal on action-oriented research 'Strengthening the E-links: Meeting Challenges in Energy, Water and Health Through Partnerships' has thus been detailed in the accompanying paper by TERI—The Energy and Resources Institute.

II. The Challenge

The World Summit on Sustainable Development in Johannesburg has generated new debates to set priorities for sustainable development policies and practice in the 21st century. The participating governments agreed to and reaffirmed a wide range of concrete commitments and targets for action to achieve more effective implementation of sustainable development objectives. Support for the establishment of a world solidarity fund for the eradication of poverty, for example, was a positive step in this direction. In a major policy address on expectations for the Johannesburg summit, United Nations Secretary-General Kofi Annan identified water and sanitation, energy, health, agriculture and biodiversity (WEHAB) as key areas where concrete results can and must be obtained. Significant efforts have been directed in the Johannesburg process toward the concretisation of these requirements.

One new development in the Johannesburg process was the emergence of a multitude of partnership initiatives between governments, non-governmental organisa-

tions and the private sector, the so-called 'type 2' partnerships. These partnerships were supported in the Plan of Implementation agreed in Johannesburg, with over 220 partnerships with 235 million US dollars in resources identified before the summit. By now, more than four hundred partnerships have been announced. In the words of the president of the World Resources Institute, the summit "will be remembered not for the treaties, the commitments, or the declarations it produced, but for the first stirrings of a new way of governing the global commons—the beginnings of a shift from the stiff formal waltz of traditional diplomacy to the jazzier dance of improvisational solution-oriented partnerships that may include non-government organizations, willing governments and other stakeholders".¹

In this respect, the summit was able to mobilise the global community toward new efforts for sustainable development. The evolution, effectiveness and performance of these new modes of global governance, however, remain only poorly understood. In what areas are partnerships more likely to be agreed? Which partnerships are more successful than others? How can negotiators improve the effectiveness of the partnerships that they are about to set up? How are 'type 2' partnerships best be linked to 'type 1' agreements, that is, the negotiated intergovernmental agreements? How can we ensure that both governance mechanisms are mutually supportive? What design choices would be most helpful in this regard?

The academic community that studies the political processes after Johannesburg has yet to offer clear answers to these questions. TERI—The Energy and Resources Institute and the Global Governance Project have thus decided to join forces to launch a new Research Forum 'Analysis of Partnerships for Sustainability' (ASAP) to study these questions. We strive to bring together diverse research efforts in a more institutionalised, co-ordinated fashion in order to strengthen these initiatives. We expect the Forum to develop into an international research programme that provides access to the wide range of resources, knowledge and expertise of different participating organisations, that attracts the best and brightest researchers from North and South, and that incorporates diverse perspectives from different communities all over the world.

Jonathan Lash, president, World Resources Institute, News Release 'WRI expresses disappointment over many WSSD outcomes', Washington DC and Johannesburg, South Africa, 4 September 2002, at http://newsroom.wri.org/newsrelease_text.cfm?NewsReleaseID=135.

III. Outline of a Research Strategy

The Research Forum 'Analysis of Partnerships for Sustainability' (ASAP) strives to foster sustainable development through policy-relevant research on the new governance mechanism of 'type 2' partnerships, with special focus on water and sanitation, energy, health, agriculture and biodiversity (WEHAB areas). In addition to partnerships in these sectors, cross-cutting partnerships aimed at poverty alleviation, technology transfer or science-based decision-making will also be taken into account. As in any major multinational research programme in a highly contested political context, the continuous identification and adjustment of research priorities needs to incorporate diverse perspectives from multiple stakeholders.

Some general research questions will reach over the issue-specific problems and will be the building blocks for developing the research agenda of the Forum. These general questions pertain, in particular, to measuring the performance of partnerships and strengthening their impacts. Also important is the in-depth study of relations and complementarities among different 'type 2' partnerships, as well as between 'type 1' agreements—or intergovernmental processes in general—and 'type 2' partnerships.

We suggest that the research strategy involve two major steps. First, we need to establish a typology of different 'type 2' partnerships that would allow comparative research between clusters or ideal-types of partnerships. Second, we need to focus research on three interrelated questions: analysing the formation of partnerships, evaluating their performance and effectiveness, and assessing their legitimacy.

CLUSTERING 'TYPE 2' PARTNERSHIPS FOR COMPARATIVE ANALYSIS

Any comparative effort in the social sciences needs to build on a typology of different objects of study in a given sample. Initially from all partnerships related to energy and climate, and eventually from all of the more than 400 current partnerships, we suggest building clusters of partnerships around four characteristics, which would allow us to identify 'ideal types' as a basis of a comparative research programme. The characteristics are:

Structure: Leadership, Participation, and Modes of Governance

A distinct feature of most 'type 2' partnerships is their multi-stakeholder approach. According to the Guiding Principles for Partnerships for Sustainable Development—the so-called Bali Guiding Principles—this is an essential element of such endeavours, and the involvement and participation of governments, regional groups, local authorities, non-governmental actors, international organisations and the private

sector is explicitly encouraged. We thus suggest clustering the large group of partnerships according to their forms and levels of participation and according to the type of actors that bear the primary responsibility.

Objectives: Goals and Issue Areas Targeted

In line with the general purpose of the Johannesburg summit, 'type 2' partnerships shall concretise and implement measures and projects that contribute to effective global governance to achieve sustainable development. In particular, partnerships shall "contribute to and reinforce the implementation of the outcomes of the inter-governmental negotiations of the WSSD (Programme of Action and Political Declaration) and to help achieve the further implementation of Agenda 21 and the Millennium Development Goals" such as poverty eradication, provision of water and sanitation or the proliferation of renewable energy systems. Therefore, we suggest clustering 'type 2' partnerships according to their goals and the relation of these goals to the measures and objectives formulated in the respective action and implementation plans. Additional criteria would be the type of issue addressed; whether the partnership covers a single issue area or tries to integrate different areas; and whether the partnership is explicitly linked to one or several intergovernmental agreements.

Instruments: Means to Implement Objectives

The partnerships that have been created before, during or after the Johannesburg summit cover a wide range of instruments and activities. Building on general approaches in policy analysis, we suggest clustering 'type 2' partnerships according to their applied instruments and proposed activities: (i) information generation and dissemination, (ii) capacity and institution building, (iii) knowledge and technology transfer, (iv) policy transfer and (v) financial support.

Status: Grand-fathering versus Additionality

Finally, we suggest clustering 'type 2' partnerships for analytical purposes according to their status in the political process, notably whether they have already been functional before the Johannesburg summit (and are thus less an outcome of the Johannesburg process, but rather 'grand-fathering' of existing programmes) or whether they can be seen indeed as a new and innovative outcome of the Johannesburg process.

Methodologically, the data gathered in this initial phase will provide a basis for the selection of promising in-depth case studies. At the same time, the detailed knowledge about the *structure* of the various 'type 2' partnerships (such as management,

availability of resources, monitoring mechanisms or transparency), their *goals* (such as the degree of concretion, measurability or links to ongoing sustainable development policies at the regional, national and international level) and their *instruments* (that is, training, financing etc.) will provide—among other variables—first indications for the explanation of variances in the effectiveness of ‘type 2’ partnerships, which will then be tested in case studies. The typology of the myriad partnerships will help to solve some of the confusion about this new form of governance and will contribute to a more sophisticated and empirically sound conceptual understanding.

ANALYSING ‘TYPE 2’ PARTNERSHIPS

Based on these clusters, we suggest focusing the comparative analysis on three different aspects.

Creating New Partnerships: When and Why Do What Type of Partnerships Emerge?

We suggest to focus first research efforts on the formation process before the partnerships reach a critical stage, because all partnerships are relatively new. A clear understanding of the conditions for increasing co-operation in a multi-stakeholder context is key to improve the effectiveness of partnerships in implementing the various programmes towards sustainable development. This first research step would build on existing research on older forms of private-private and private-public governance, such as the World Commission on Dams or the Forest Stewardship Council. The objective of this initial research would try to identify and delimit ‘collaborative windows’ that allow for the creation of new partnerships to implement the Johannesburg agenda. In particular, the rationale for the relations between non-governmental organisations and business is poorly understood, while the engagement of governments with the private sector has been analysed in some detail. We thus plan to focus one line of research on the formation of ‘type 2’ partnerships with the involvement of non-governmental organisations and business. The results of this research will contribute to subsequent attempts to explain variation in effectiveness and legitimacy, based on a solid understanding of the formation process of emerging tripartite governance networks. They will also assist policy-makers and other stakeholders in strengthening the conditions for new partnerships to emerge, possibly in the form of policy briefs that lay out possible policy measures.

Effectiveness and Implementation: What Types of Partnerships Are Most Effective?

'Type 2' partnerships have not yet been systematically evaluated, even though policy-makers and participants at all levels of decision-making urgently require an improved understanding of how effective their engagement has been. Well-informed policy advice is needed on how to sustain and enhance the effectiveness of these new partnerships. This second research phase thus aims at revealing success stories and identifying key variables that explain good or poor performance. Based on these findings, role models for 'type 2' partnerships could be designed based on a core set of guidelines. This could then be translated into policy briefs for policy-makers and other stakeholders.

The lack of systematic and comparative evaluations of 'type 2' partnerships is linked to the fact that these partnerships are too recent for a comprehensive assessment. More importantly, no comprehensive conceptual framework for evaluation has yet been put forward. Based on an extensive review of literature on policy analysis and international regime evaluation we suggest to conceptually divide the effects of 'type 2' partnerships into three levels:

- the *output*, or the actual activity of the partnership (that is, technologies deployed, publications and knowledge disseminated, conferences held, money spent, etc.);
- the *outcome*, or the observable change in the behaviour of actors targeted by the 'type 2' partnerships (that is, adoption of new policies, modification or abolishment of common practices in use, etc.); and
- the *impact*, or the changes in economic, social or ecological parameters that result from the change in actors' behaviour (that is, ameliorating or deteriorating environmental conditions, enhancing or fragmenting social cohesion, increasing or decreasing prosperity, et cetera).

From a purely methodological point of view, the evidence that environmental indicators or the behaviour of certain actors that have been targeted by a partnership has changed, does not necessarily mean that these effects can be attributed to the activity of the partnership—in other words, whether the 'type 2' partnerships have contributed to the overall positive development.

Several options exist to cope with this methodological challenge, which are discussed in the academic literature. These include developing a specific point of reference (the measurement of effectiveness against the partnership's own goals or the comparison with optimal solutions derived from economic concepts), the development of a counterfactual situation, or the application of the concept of relative change. Once success stories and failures are identified, the explanation of variation in performance will shed light on the key factors that influence the effectiveness of 'type 2' agreements and provide an opportunity to propose improved and optimised designs for them. In

particular, findings from environmental policy analysis, from the evaluation of international regimes and from the research on organisational effectiveness bear the most promising explanatory potential.

Possible variables that might influence the effectiveness of 'type 2' partnerships are

- the *organisational structure*, that is the existence of monitoring and evaluation mechanisms, the amount and sources of available funding, the nature of co-ordination and management mechanisms (e.g. decision-making procedures), mechanisms ensuring the compliance and commitment of participating actors, and the quality of staff (e.g. education, recruitment);
- the *concretion of goals*, that is the formulation of qualitative or quantified goals, the measurability of goals, and the existence of a time-frame;
- the *political feasibility* of the policies, measures and activities which are being implemented, that is whether the chosen implementation mechanism is likely to meet strong and powerful resistance from concerned actors outside the partnership and how power is distributed among targeted and concerned actors;
- the *technical feasibility* of the policies, measures and activities, that is whether the policies, measures and activities meet and consider appropriately the needs and capacity of the concerned actors as well as the specific national administrative and regulatory structures of the country in which the agreement shall be implemented; and finally
- the *structure of the targeted problem*, that is the availability of solutions, the visibility of the problem and the perceived urgency of the problem.

Legitimacy: What Types of Partnerships Are Perceived as Legitimate Among Which Actors and Stakeholders?

In a context of complex interdependence between various actors, levels of governance and problem-structures—not the least within the North-South context—partnerships must not only be effective, but also be perceived as legitimate for a maximum number of stakeholders among governments, non-governmental organisations and the private sector. Here, two types of 'type 2' partnerships need to be distinguished:

When partnerships are involved in negotiating or setting transnational rules or standards, both their *input legitimacy* (have all stakeholders been involved?) and their *output legitimacy* (was the outcome fair and beneficent to all?) are equally important to analyse. Thus, the examination of these partnerships would include an evaluation of criteria such as access to participation, transparency of the process, accountability of the actors involved, etc.

In contrast, where partnerships do not negotiate or set rules on their own, but act to promote the implementation of existing rules or standards, the focus of attention will be on their *output legitimacy* only. Here, evaluation criteria could include the efficient use of public resources (if used), the overall effect partnerships have on environment and/or development, and the distributional effects of partnerships (if any).

Since 'type 2' partnerships are a rather recent mechanism within the broader architecture of global environmental governance, a coherent framework for analysing their legitimacy is still needed. This Research Forum would strive to contribute to this challenge. Its findings could assist in strengthening existing partnerships and creating new ones with the view to have the broadest legitimacy possible.

DEVELOPING INDICES FOR SUCCESSFUL PARTNERSHIPS AND NEW GOVERNANCE MECHANISMS

Building on the findings of the previous two research steps, it should be possible to construct a performance index of 'type 2' partnerships. This could lead to mutual competition between partnerships, such as informal and implicit 'pledge and review' mechanisms, which could be supported by governments or non-governmental actors. One outcome could take the form of award schemes for partnerships that have been identified to be most effective, most innovative, and most legitimate. The findings of the Forum research programme could also be included in databases, which could, for example, be published through the web site of the Forum.

IV. Outline of an Institutional Structure

THE CORE STRUCTURE

The ASAP Research Forum is designed as a joint effort of a number of research institutions from both industrialised and developing countries, with the support and active involvement of stakeholders from non-governmental organisations, governments, and the private sector. The Forum will comprise an advisory council; a secretariat that will be jointly managed by the two co-ordinating institutions; and several working groups. All will hold collective responsibility for the development and implementation of the research programme.

THE CO-ORDINATING INSTITUTIONS

Initially, the Forum will be co-ordinated by two institutions, one in a developing country (India); one in Europe (Netherlands and Germany). Additional research institutions will be integrated into the Forum once it has gained momentum.

Both TERI—The Energy and Resources Institute, New Delhi, including its affiliate in North America, and the Global Governance Project of four major European research institutions² have been actively engaged in the preparatory process for the Johannesburg summit as well as in reviewing its outcome.

TERI has organised the Delhi Sustainable Development Summit³ and two important colloquia in New York and Washington DC to gather perspectives of a wide range of high-ranking and eminent scientists, policy makers, business leaders and scholars from across the globe. These colloquia have received support from international foundations, development agencies and the corporate sector, thereby providing evidence of the strong interest across a range of stakeholders in achieving the goal of global sustainable development.

The Global Governance Project has organised the 2001 and 2002 Berlin Conferences on the Human Dimensions of Global Environmental Change⁴, as well as the inaugural conference of the Indo-German Forum on International Environmental Governance in September 2002.⁵ These events have brought together a large group of eminent experts, governmental representatives and stakeholders to debate the role of the nation state in global environmental change (2001), the function of knowledge for the sustainability transition (2002) as well as the different perspectives on climate change from South and North (Indo-German Forum, 2002).

While these efforts have provided important and diverse perspectives, which have been well documented and widely disseminated, it is important to carry forward these efforts to the next stage. An important element of this next stage will be to identify priorities for research that will help strengthen the multitude of partnerships and initiatives for sustainable development that have evolved in conjunction with the Johannesburg summit.

² These institutions are the Institute for Environmental Studies (IVM) of the Vrije Universiteit Amsterdam (co-ordinating institution after 1 October 2003); the Potsdam Institute for Climate Impact Research (current co-ordinating institution); the Environmental Policy Research Unit of the Free University of Berlin; and Oldenburg University.

³ Cf. the reports on www.teriun.org.

⁴ Cf. the reports on www.glogov.org.

⁵ Cf. the reports on www.indo-german-forum.net

ADVISORY COUNCIL

It is envisaged to establish an advisory council of eminent experts in the field of sustainability policy and practice. The members will assist in providing the overall vision and guidance to the consortium, but will not be involved with its day-to-day functioning. Members will also bring their ability to leverage financial and political support to implement the Forum's research agenda. The role of the advisory council would involve participation in one annual meeting. This meeting would serve the purpose of an informal interaction among the Forum members and a formal presentation and discussion of the Forum's past and future activities. The advisory council members would be required to bear their own expenses for travel and local expenses to the extent possible, but reimbursement from the Forum's funds could be made on case-by-case basis. In addition to participation in the annual meeting, the time commitments of the advisory council members would be kept at a minimum, and their involvement would be mostly via e-mail or telephone.

FORUM MEMBERS

Core member organisations would be involved with all or some of the research projects undertaken within the Forum, based on their research interests and availability of research professionals. Affiliate organisations may also be included to provide specific expertise. In the initial stages, it is expected that six to seven organisations from Asia, Europe and the United States will be involved in building the Forum's research programme, including research institutions, non-governmental environmentalist and development groups, representatives from the private sector and possibly representatives of governments.

To ensure the success of the Forum, it is important to secure core funds for the coordination and day-to-day work of the Forum. This would include financial means to develop the research agenda and implement first projects; to carry out the administrative, financial and logistical arrangements; travel, workshops and meetings; and administrative overhead. The Forum will only be able to function if all core members participate in sharing these responsibilities. Each core member would thus be expected to contribute a certain amount—possibly in the order of US\$ 25,000 p.a.—to the core funds and the day-to-day management of the Forum. All members that contribute to the success of the Forum will profit from the research findings and will be involved in all processes and stakeholder interaction of the Forum. Members will also receive ample policy-relevant materials that presents practical experiences as well as latest scientific research on 'type 2' partnerships. Additional financial sources for specific projects will be identified on an ongoing basis. Core members from the research community could contribute their share of resources by providing professional time and by hosting workshops and meetings.

SECRETARIAT

The Forum secretariat will be responsible for developing and implementing the research programme. It will co-ordinate research activities among the member institutes and identify new organisations that may be involved in the Forum's activities. In addition to managing research projects, the secretariat will be responsible for managing the Forum's funds. Finally, the secretariat will be responsible for disseminating the research findings through publications and a Forum website.

Both TERI and the Global Governance Project would have the primary responsibility for the administrative and logistical co-ordination of the Forum's activities. Both institutions would share the responsibility of hosting the secretariat, to the effect that the Forum would in its very set-up reflect the need of intensified North-South collaboration. Within this institutional arrangement, TERI would have the prime responsibility for undertaking applied research and developing projects in the WEHAB areas, while the Global Governance Project would have prime responsibility for the theoretical and policy-oriented research on the 'type 2' partnerships that have emerged at the Johannesburg summit and beyond.

The secretariat's administrative responsibilities would include planning the Forum's activities including research projects, workshops and meetings; developing timetables and work plans; managing the corpus and project specific funds; communicating with Forum members, advisory council and project sponsors; and developing annual reports and presentations.

WORKING GROUPS

Working groups will comprise experts on certain subjects from the research institutes and the stakeholders that are members of the Forum as well as from organisations and stakeholders outside the Forum or affiliate members. These groups may also work with the secretariat on developing proposals for research.

V. Planned Procedure

In the first phase of the Forum, the co-ordinating institutions would strive to identify partner organisations, set-up the advisory council and secretariat, and develop a research agenda. The co-ordinating institutions would then organise a workshop attended by Forum members, other stakeholders and the advisory council to consolidate and finalise the Forum's research agenda and the roles and responsibilities of its members. A comprehensive document agreed upon at this meeting will serve as the

Forum's charter, containing the guidelines and ground rules for its research activities.

In the second phase, Forum members would begin to carry out research and policy analysis according to the jointly agreed research programme. At the same time, the co-ordinating institutions would work closely with stakeholders to ensure that their information needs are continuously included in the research programme.

In the third phase, the results of the research projects would be widely distributed to decision-makers in governments, civil society and the private sector. Typical forms of distribution could be academic and public policy articles, widely disseminated research papers and books, Internet-based information, as well as side events at international conferences, for example at the UN Commission on Sustainable Development.

